

**ABSTRACT**

The invention concerns a method for controlling automatic transmission (3) of a vehicle comprising an engine (2) driving the transmission (3) which consists in: detecting a downhill situation of the vehicle, and selecting a transmission ratio so that the engine absorbs energy, storing a longitudinal speed of downhill start ( $V_{min}$ ) when the vehicle starts going downhill, and while the vehicle is running downhill, comparing the current speed ( $V$ ) of the vehicle with the downhill start speed ( $V_{min}$ ) such that the current speed ( $V$ ) exceeds the downhill start speed ( $V_{min}$ ) by a predetermined difference ( $V_S$ ), then controlling the transmission to trigger downshifting.